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ABSTRACT

The one most important ingredient that should be included in the training of Industrial/Organizational (I/O) students who will be entering business and industry is practical experience prior to graduation, a conclusion resulting from two surveys. The first survey was sent to recent I/O graduates newly employed in industry, and asked for an evaluation of their training. The second survey was sent to psychologists who were in a position to employ recent I/O graduates. Special emphasis was given to what respondents felt was the one most important thing that would prepare graduates to work effectively in business and industry. The overall conclusions of both were identical. They felt practical experience should be obtained through internships and similar planned contacts. (BN)

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PREPARATION FOR WORK IN BUSINESS AND INDUSTRY

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APA Symposium - Graduate Training in Industrial/Organizational Psychology

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APA Symposium - Graduate Training

In Industrial/Organizational Psychology

I. It's a pleasure to be on this panel because, along with the others represented here, I am sincerely interested in the attempts to provide realistic on-the-job experiences to Industrial/Organizational psychologists while they are in graduate school.

A. My objective in the next few minutes, as Dennis has indicated, will be to discuss the results and conclusions of the two surveys I conducted of recent I/O graduates and employers of I/O graduates.

B. I will also make some comments on what I see as the role of Division 14 and, perhaps more importantly, the role of the academic institutions themselves in providing "real-world" experiences to their students.

II. I first became interested in the training I/O graduate students are receiving when I reviewed the Guidelines for Education and Training in Industrial-Organizational Psychology prepared by the 1973-4 Education and Training Committee.

A. Those guidelines made a major distinction between a "scientist" model of training for those who will be working in academics and research, and a "professional or practitioner" model of training for those who were to be applying the knowledge and skills in an industrial or business environment.

B. My own interest at that point was with what was already being done to prepare I/O psychologists who definitely plan to work in business and industry, and where shortcomings might be perceived.

III. This, in turn, led to the two surveys I made with the help of my Education and Training sub-committee -- one of recent I/O graduates and one of the employers of recent I/O graduates. These surveys had three basic objectives.

1. First, to determine if there were academic areas in which further training was generally seen as necessary.

2. Second, and related to the first, to determine if there was a perceived need to include training in areas generally found in business school curriculums but not in I/O graduate programs.

3. To determine the major strengths, and more importantly the major weaknesses, of existing I/O graduate training programs as seen by the respondents.

IV. The findings from the surveys were basically identical for the recent students and the employers. Let me review them in turn.

A. First, with respect to general academic training, it was felt to be "good" or "excellent," but few went so far as to rate it "outstanding."

1. On the positive side, it was felt that excellent training had been provided in the areas of research methods, experimental design, and statistical analysis -- and this was also supported by the write-in comments of the employers of recent I/O graduates.

2. On the other hand, it was generally felt that further training would have been helpful in the areas of organizational change; personnel assessment-selection and placement; performance evaluation and criterion development; position and task analysis; and personnel training and development.

3. The common denominator here is that these are all applied areas which are of major interest to business and industrial organizations. This was the first indication of the possible further need for experience with "application" of knowledge -- the "professional" practitioner concept.

B. When we looked at the interest in business school topics, in line with our second objective, it was generally felt that some additional training in the area of business planning would have been helpful.

1. However, neither group of respondents felt further training was needed in the other "business" areas such as economics, financial analysis, accounting, marketing management, or production management.

2. At least for these respondents, the present emphasis on non-business school topics appears reasonable.

V. Thus, there were some areas of agreement with respect to the academic subject matter emphasis. Nevertheless, it was when we asked for an open-end response to the question, "what is the biggest shortcoming in the graduate education?" that we got the most agreement.

A. Both the graduates and the employers agreed that the one thing that would help I/O graduates the most would be to, in one way or another, familiarize the student with the practical aspects of business and industry prior to graduation.

1. This response was made by 73 percent of the employers and 86 percent of the graduates.

2. Some example comments from employers were that academic institutions should:

> "Provide genuine field work that a person is actually held accountable for in the sense of results and meeting dates."
>
> "Invite numerous everyday practitioners (not "superstars") in to talk to students about what they do every day."

3. Responses from the graduates themselves were very similar --e.g., they requested:

> "A required internship or work-study type of program which combines classroom study with actual job training and experience."

"More emphasis on solving an identified (or Identifying a) problem and less on theorizing. Business and industry (and government) desire answers and closure."

VI. So, the perceived needs are clear -- but I would like to review what we mean by "internships" in light of these two surveys.

A. When we use the word "internship," we are not referring to the clinical model which involves a standard set of experiences under standard supervision for all graduate students.

1. Such a model assumes a stability of work requirements and topical areas that is just not available within I/O psychology. For this reason a <u>flexibility</u> in approaches is a necessity -- based on the particular businesses and industries that are available to graduate students, the needs of these organizations, and the strengths at the particular academic institution and its faculty.

2. Therefore, when we refer to "internships," we are really referring to any procedure of providing realistic contact with business and industry under supervised conditions.

In most cases these activities would involve some sort of actual work in business and industry, and that is what this panel will talk about today.

3. However, this is certainly not the only way to provide such experiences, and the survey respondents did specifically mention the need for realistic classroom experiences, bringing practitioners into the classroom to share their experiences, and so forth.

4. The major point is that a sincere effort needs to be made to provide a realistic picture of what work in business and industry is really like, and do it in all ways possible.

   1. "Internships," as defined here, are certainly one very meaningful approach to providing such a realistic picture.

   2. And such a realistic picture should, in turn, provide many positive results.

      (a) Realistic expectations which it is indicated are needed.

      (b) Permit individuals who will not like the business to find it out prior to graduation, and make alternative plans.

      (c) If it holds true for I/O psychologists as it has in many other areas, such a realistic picture will improve survival and productivity on-the-job.

VII. Well, what can Division 14 do? I am afraid my conclusion is that they can do some things, but not an awful lot.

A. If there was one standard internship that would meet all needs, Division 14 could draft specific standards, etc.

1. Since this is not possible, it may be possible to supply some general guidelines within which institutions could operate.

2. Certainly, Division 14 must support the need for the flexibility in internships I touched on earlier, just as they have supported the need for individualized programs of development for I/O psychologists in the area of continuing education.

(a) This would keep us from getting caught up in the "one-standard" approach which some groups feel is called for.

B. Division 14 can also publicize the need for internships themselves through TIP and other vehicles, and provide forums at which ideas and approaches can be discussed such as the one we are having today.

1. Finally, through the Education and Training Committee, it can pull together basic information on programs that have been put into operation at academic institutions, and this has begun (Dave Clements' survey).

2. Along the same line, Division 14 might be able to act as a nonevaluative "clearing-house" for such positions. This might have the consequence of "flooding" the market for companies

that will accept interns from a number of universities, but that brings with it some advantages as well as disadvantages.

VIII. The major burden with respect to developing internships, however, seems as if it must fall on the individual institutions and their faculty members.

A. This has certainly been true up to now, but what has been done is mainly due to the efforts of individuals who recognized the need for realistic experiences and who have invested time and effort to develop such opportunities because of their personal interest in the area.

1. But more effort, supported by the academic institutions themselves is likely to be needed if more pressure to provide some sort of "internship" experience is brought by state statutes, state licensing requirements, and so forth -- and if past experience is any indication, such pressure will come.

2. As a result, institutions will have to review what they now supply and what other opportunities might be developed, taking into account the businesses and industries that are available and the expertise of their staff.

(a) In order to investigate these possibilities, they will certainly want to make individual contact with businesses, and they may wish to consider having I/O psychologists give short "talks" to groups of local businessmen describing the activities students might undertake under supervision to gain interest.

(b) And they should also be sure to bring the realistic exposure into the classroom by all means possible, one of which is to be sure that all instructors have had realistic exposures themselves!

(c) Finally, the thought crosses my mind that academic institutions should not overlook the possibility of providing for "internships" within their own facilities.

(1) As I look back on it, my own personal "internship," if you will, was two years spent in the Purdue Admissions Office during which time I did validity studies, personnel counseling, follow-up surveys of accepted students who decided against Purdue, and a lot of other business-related activities.

(2) This may not be "business" as such, but it certainly is a step toward it.

IX. It is not an easy job to set up a meaningful "internship" program, and it obviously has its frustrations. Students need to be aware of the shortcomings that may sneak into such activities.

A. But everyone agrees that some sort of "internship" program is important! We will hear from some individuals who have actually been involved in setting up such programs, and they will touch on some of the other areas of interest and concern, such as the content, timing, and length of "internships."

1. Most important, they will indicate how they went about setting them up.

2. And we will hear from the other side as well -- from a former student who has experienced an "internship." This should make for very interesting input.

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PREPARATION FOR WORK IN BUSINESS AND INDUSTRY

-- The Results of a Survey of Recent Graduates --

by
Eugene C. Mayfield

The Education and Training Committee of Division 14, through George Thornton's subcommittee, recently sent a questionnaire to schools offering graduate degrees in psychology and business administration. These graduate schools were asked to forward copies of a second questionnaire to recent graduates from the program who had been employed in industry from two to five years. This second questionnaire was designed to assess the adequacy of the training provided these individuals as seen by the graduates themselves. Later surveys are planned which will assess the adequacy of the training as seen by the individuals who hire new graduates and by the line officers who make decisions on the basis of information provided by staff units in which I/O graduates work.

The questionnaire consisted of a simple three-page form asking the graduates:

1. Did they have an assistantship while in graduate school, and was it (or would it have been) of value in preparing them to work in business?

2. Had there been contact with business or industry during school, and was it (or would it have been) of value?

3. Overall, how well prepared for work in business were they at the time they graduated?

4. What is the one most important thing that they feel would help prepare graduate students to work effectively in business?

5. What training had they received in each of the 26 itemized areas and did they feel further training would have been of value in each of these areas?*

After eliminating questionnaires which had been inadvertently sent to persons working in academic areas and those who had been in business or industry less than a year or more than six years, there remained 53 questionnaires from 15 institutions granting advanced degrees in I/O psychology. Forty-one respondents had received Ph.D.'s, while the remainder had Master's degrees. The number of questionnaires received from graduates of individual institutions ranged from 1 to 9.**

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*A sample questionnaire is attached to the end of this report. I am indebted to the members of my subcommittee -- Bob Means, Paul Muchinsky, and Andy Souerwine for their suggestions on the questionnaire and on the procedure employed.

**Only 1 out of 7 business schools responding to the first questionnaire forwarded the second questionnaire to graduates, and only 1 graduate responded -- he was dropped from the analysis. Twenty-five schools offering graduate degrees in I/O psychology had responded to George Thornton's original questionnaire by the end of May 1975.

Obviously, such small numbers made a detailed comparison of institutions impossible. However, overall analyses of the total sample permitted some insight into the feelings of recent graduates regarding their training.

Was an Assistantship Held and Was It of Value?

Both parts of this question were answered by 51 of the respondents. Only one indicated no assistantship; 13 indicated a teaching assistantship; over 5 indicated a research assistantship only; 28 indicated they had had both a teaching and a research assistantship. The remaining four individuals indicated they had some "other" type of assistantship or an "other" type combined with research or teaching.

The average response was that the assistantship experience was of "some" value (2.04 on a scale of 0 for "no help", 1 for "little help", 2 for "some help" and 3 for "great help"). Fourteen (27 percent) of the respondents felt that such an assistantship was of "great" value. Those who had both teaching and research assistantship tended to say their assistantships were a "great" value more often (32 percent) than did those with only one or no assistantships (14 percent), possibly because of greater exposure to a variety of activities.

Written comments indicated that those who felt the assistantships were of "some" or of "great" value had two main reasons for feeling this way. Either (1) it provided experience in organizing and/or presenting material to others (mentioned more frequently by those with teaching assistantships), or (2) it provided an exposure to real life situations and applications (mentioned most frequently by those who had held a research assistantship). A few (N = 4) respondents indicated their assistantship provided a general background of facts or materials that has been helpful to them. Almost all the individuals who said their assistantship was of "little" or "no" value (N = 10) and made a written comment indicated they felt this way because the activities required by the assistantship were in no way similar to their on-the-job activities.

Was There Contact with Business During Graduate School, and Was It of Value?

Both parts of this question were also answered by 51 of the 53 respondents. Forty-one of these individuals (80 percent) indicated they had had some contact with industry during their graduate training. There was a general feeling that direct contact with business during graduate school was of more value than were assistantships. The average response was that the contact was (or would have been) between "some" value and "great" value -- 2.39 on the scale from 0-3 discussed earlier. Forty-seven percent of the respondents indicated such direct contact was (or would have been) of "great" value. There was no clear tendency for a particular source of contact to be seen as being of more value than others -- i.e., through thesis work, internship, etc.

As was true for assistantships, the main reason for feeling direct contact with business or industry was of value was because of the contact and practical experience gained. Some example comments were:

"(I) witnessed the reality of the work world and began to understand the basis of research and literature which attacked the traditionalism of the work place."

"It helped me to test the reality of a school-work situation. It gave me insights as to what to expect, and more importantly, it showed me that the 'world of work' is not as theoretical in practice as I had envisioned."

The reasons given by the respondents who had such contact and said it was of little or no value (N = 3) was that the contact had been an unrealistic situation and gave little indication of the real world and/or the contact was too narrowly defined to be of general value.

Overall, How Would You Evaluate Your Preparation to Work in Business?

The majority of the respondents felt their training, overall, was either good or excellent. The distribution of responses is shown below for the 52 who answered the question.

Outstanding	6
Excellent	17
Good	20
Fair	9
Poor	0

However, the fact that 56 percent felt their training was no better than "good" would indicate that there is certainly room for improvement in the eyes of the respondents. Although the number of cases did not permit a detailed analysis, the distribution of responses from the graduates of different institutions was examined to see if there were any major differences. Although there was some fluctuation, the average responses varied only from 2.20 to 2.88 (Poor = 0; Outstanding = 4). Five of the seven comparisons were in the 2.20 to 2.29 range -- the overall average being 2.38 (six schools were considered separately with N=4-9, with the other schools being lumped together N = 11). Thus, it would be difficult to say that there were major differences in the quality of preparation provided by different schools as seen by the respondents.

What Is the One Thing that Would Help I/O Graduates the Most?

The answers to this question were the most consistent of any of the responses to the questionnaire -- the respondents felt that graduate schools should, in one way or another, familiarize the student with the practical aspects of business and industry. Of 51 individuals responding to the questions, 29 (57 percent) indicated that this acquaintanceship should take place in work programs or internships. Typical answers were:

"A required internship or work-study type of program which combines classroom study with actual job training and experience."

"Experience through summer jobs with different companies in different facets of the business."

Another 15 (29 percent) indicated this practical orientation should come about, at least in part, through more realistic situations being covered in the classroom sessions themselves. For example:

"More emphasis on solving an identified (or identifying a) problem and less on theorizing. Business and industry (and government) desire answers and closure."

"Simulation training in planning implementation strategies for organizational use. Simulation training in the application of statistical methodology to help solve organizational problems."

Thus, a total of 86 percent of the respondents indicated the need for practical experience. The largest single response outside of these areas was the need for solid grounding in research methods and experimental design which was mentioned by four individuals. Two of these indicated that this training should be in applied research design and should indicate the limitations of the designs -- again alluding to the need for practical experience in application.

Only three individuals gave miscellaneous responses which could not be directly classified in one of the above categories. (Granted, there might be minor differences if others allocated the responses to various categories.)

Subject Areas in Which Training Was Received and/or Would Have Been Helpful

In order to more specifically identify the areas in which the graduates felt they needed more formal classroom training, a list of 26 subject areas was developed. This was done by (1) reviewing books of readings to determine the topic headings which were used, (2) taking the APA categories that are used to define specialty areas in the directory, (3) reviewing the list developed by Ben Schneider as used by Dennis Courtney in his study of Associate Members of Division 14 (reported in TIP), and (4) reviewing the lists of program needs as developed by Alexis Anikeeff in his studies of graduate training (also reported in TIP). These lists were combined into the following:

1. Research Methods and Design
2. Statistical Analysis
3. Computer Applications and Programming
4. Personnel Assessment, Selection, and Placement
5. Tests and Measurement
6. Performance Evaluation and Criterion Development
7. Position and Task Analysis
8. Personnel Training and Development
9. Motivation and Morale/Attitudes
10. Leadership and Supervision
11. Communication and Human Relations
12. Personality
13. Employee Counseling
14. Small Group Structure and Processes
15. Organizational Analysis and Change
16. Man-Machine Systems and Design
17. Operations Research
18. Labor Relations
19. Economics
20. Accounting
21. Marketing Management
22. Consumer Behavior
23. Production Management
24. Financial Analysis
25. Business Planning
26. Ethics, Professional Problems, and Civil Rights

The above seemed to cover the subject matter areas fairly well since only seven areas were added by the respondents in an optional "other" category (although this might simply be due to a reluctance to add to any readymade list). The seven additional areas that were mentioned (one by each of seven different individuals) were: (1) Entry processes, (2) client relationship, (3) sampling, (4) clinical psychology, (5) manpower planning, (6) general systems theory, and (7) labor law.

The subjects were asked to respond to each of the subject areas in terms of the amount of training they had received in that area (None = 0, a little = 1, a moderate amount = 2, a lot = 3) and whether more training would have been of value (No = 0, a little more = 1, a moderate amount more = 2, a lot more = 3). Averages for each subject matter area were calculated and the results are shown in Figure 1.

Overall, it can be seen that the areas where, on the average, the respondents indicated more training would be of value were Organizational Analysis and Change; Personnel Training and Development; Position and Task Analysis; and Labor Relations. The most training had been received in the areas of Motivation and Morale/Attitudes; Research Methods and Design; Statistical Analysis; Tests and Measurements; and Personnel Assessment, Selection and Placement. Little training had been received in the areas of Accounting; Marketing Management; Production Management; Operations Research, Economics; Financial Analysis; Business Planning; and Labor Relations. Many of these subject areas obviously include courses which are provided in most MBA programs. Interestingly, not only did the I/O graduates receive little training in these areas, but they felt, for the most part, that further training in these areas (except for business planning and labor relations) would be of little value to them. Whether these areas are also seen as of lesser importance by other groups (e.g., line officers, etc.) will hopefully be determined in later surveys.

One must be careful not to interpret these overall averages as applying equally to all respondents. A review of the individual responses indicated several outside variables influencing the ratings given to the subject areas. First, the amount of training received in some of the areas greatly influenced the response -- individuals who had no training wanted a lot, while those who had received a lot of training didn't want any more. Second, not surprisingly, the particular job held influenced the response -- e.g., those who indicated their job duties involved job analysis rated the subject area of "Position and Task Analysis" as an area in which further training would be of value more frequently than did other individuals.

The respondents were also asked (1) the areas in which further training would be of value to <u>all</u> graduate students, and (2) which areas applied to their <u>specific</u> situation. The results were basically the same as those presented in Figure 1. Interestingly, when both sets of responses were combined into an overall count of areas seen as important either to all graduates <u>or</u> to specific respondents, there was relatively little differentiation between the subject areas. The most frequently picked area was mentioned 40 times (Organizational Analysis and Change) while the least frequently mentioned received 14 votes (Man Machine Systems and Design). However, 16 of the 26 areas received between 20 and 29 votes. This wide spread of overall responses coupled with the fact that each individual respondent identified a relatively small number of areas again emphasizes that the particular needs of an individual are quite specific to that individual's particular interests, past training, and present job activities.

<u>Overall Conclusions</u>

The obvious conclusion is that the respondents feel that the one most important ingredient that should be included in the training of I/O students who will be entering business and industry is <u>actual practical experience</u> prior to graduation. This should be obtained through direct contact with business and/or through the application of theory to practical situations in the classroom. Although a few subject matter areas are seen as being of more general importance than others in terms of the value of further training, the ratings are greatly influenced by an individual's specific situation. It

would therefore appear that institutions interested in effectively training their students to work in business and industry should take definite action to develop planned contacts on the part of the students. Given the individual nature of the importance of various subject matter areas, this contact should begin early in a student's graduate career, if not before entering graduate school. In this way, the courses taken and the emphasis given various subject matter areas could be specifically aimed at meeting the individual's planned area of specialization.

FIGURE 1
Training Received and Training Wanted
By Recent Graduates in I/O Psychology

AVERAGE SCORE -- Would More Training Have Been of Value?
(No = 0; A Little = 1; A Moderate Amount = 2; A Lot = 3)

AVERAGE SCORE -- Did you receive training in this area? (No=0; A Little=1; A Moderate Amount=2; A Lot=3)

	.47-.75	.76-1.00	1.01-1.25	1.26-1.57
2.01-2.50	Motivation & Morale/ Attitudes	Research Methods & Design Statistical Analyses Tests & Measurement	Personnel Assessment, Selection & Placement	
1.51-2.00		Leadership & Supervision Small Group Structure & Processes	Performance Evaluation/ Criterion Development	Organizational Analyses & Change
1.01-1.50	Personality		Computer Applications & Programming Communication & Human Relations Ethics, Professional Problems & Civil Rights	Personnel Training & Development
.51-1.00	Man-machine System & Design Consumer Behavior		Employee Counseling	Position & Task Analysis
.00-.50	Accounting Marketing Management Production Management	Operations Research Economics Financial Analysis	Business Planning	Labor Relations

SURVEY ON ADEQUACY OF GRADUATE TRAINING

The Education and Training Committee of the Industrial/Organizational Division of the American Psychological Association is attempting to evaluate the adequacy of the training provided graduate students who enter business and industry. This questionnaire was sent to you by a member of your graduate school faculty who feels your experience in business and industry would be of help to the committee. Would you please take a few minutes of your time to answer the following questions? A copy of the overall results of this survey, along with your questionnaire responses will be returned to your graduate school to help them evaluate their specific program. Please return the completed questionnaire to:

Dr. Eugene C. Mayfield
Life Insurance Marketing and Research Association
170 Sigourney Street
Hartford, Connecticut 06105

Many thanks for your cooperation!

****

1. Your Name _____

   Company _____

   Address _____

   _____

2. Total number of years employed in industry since receiving last degree

   _____ years

3. Brief description of present duties _____

   _____

   _____

4. Graduate Education
   (Fill those that apply)

   MA or MS received from _____ (School) _____ (Department) ____ (Year)

   PhD in _____ from _____ (School) _____ (Department) ____ (Year)

   DBA from _____ (School) _____ (Department) ____ (Year)

   Other _____ (School) _____ (Department) ____ (Year)

(Please continue on other side)

5. Did you have an assistantship in graduate school?

( ) No ( ) Yes -- ( ) Teaching
( ) Research
( ) Other _____
(please describe)

Was this experience (or would this experience have been) helpful in preparing you to work in business and industry?

( ) Of great help ( ) Of some help ( ) Of little help ( ) Of no help

Why do you say that? _____

_____

6. During your graduate work, did you come in direct contact with business and industry situations through an internship or other situations? (Check all that apply)

( ) Yes, through internship
( ) Yes, through work on a thesis
( ) Yes, through other means (please describe) _____

_____

( ) No

Was this experience (or would this experience have been) helpful in preparing you to work in business and industry?

( ) Of great help ( ) Of some help ( ) Of little help ( ) Of no help

Why do you say that? _____

_____

7. Overall, at the time of your graduation, how would you evaluate the preparation you had received to work in business and industry?

( ) Outstanding ( ) Excellent ( ) Good ( ) Fair ( ) Poor

8. If you were to name one thing that would help most in preparing graduate students to work effectively in business and industry, what would it be?

_____

_____

_____

9. Please indicate on the attached table: (1) the general subject areas in which you took courses in graduate school and, (2) the areas where additional training would have been helpful.

SUBJECT AREAS IN WHICH TRAINING WAS RECEIVED AND/OR WOULD HAVE BEEN HELPFUL

PLEASE READ THE ENTIRE LIST BEFORE RESPONDING

Did you receive training in this area?						Would more training have been of value?			
	Yes						Yes		
No	A little	A moderate amount	A lot		SUBJECT AREA	No	A little more	A Moderate amount more	A lot more
( )	( )	( )	( )....	1.	Research Methods and Design	( )	( )	( )	( )
( )	( )	( )	( )....	2.	Statistical Analysis	( )	( )	( )	( )
( )	( )	( )	( )....	3.	Computer Applications and Programming	( )	( )	( )	( )
( )	( )	( )	( )....	4.	Personnel Assessment, Selection, and Placement ...	( )	( )	( )	( )
( )	( )	( )	( )....	5.	Tests and Measurement.....	( )	( )	( )	( )
( )	( )	( )	( )....	6.	Performance Evaluation and Criterion Development..	( )	( )	( )	( )
( )	( )	( )	( )....	7.	Position and Task Analysis.....	( )	( )	( )	( )
( )	( )	( )	( )....	8.	Personnel Training and Development.....	( )	( )	( )	( )
( )	( )	( )	( )....	9.	Motivation and Morale/Attitudes.....	( )	( )	( )	( )
( )	( )	( )	( )....	10.	Leadership and Supervision.....	( )	( )	( )	( )
( )	( )	( )	( )....	11.	Communication and Human Relations.....	( )	( )	( )	( )
( )	( )	( )	( )....	12.	Personality.....	( )	( )	( )	( )
( )	( )	( )	( )....	13.	Employee Counseling.....	( )	( )	( )	( )
( )	( )	( )	( )....	14.	Small Group Structure and Processes.....	( )	( )	( )	( )
( )	( )	( )	( )....	15.	Organizational Analysis and Change.....	( )	( )	( )	( )
( )	( )	( )	( )....	16.	Man-Machine Systems and Design.....	( )	( )	( )	( )
( )	( )	( )	( )....	17.	Operations Research.....	( )	( )	( )	( )
( )	( )	( )	( )....	18.	Labor Relations.....	( )	( )	( )	( )
( )	( )	( )	( )....	19.	Economics.....	( )	( )	( )	( )
( )	( )	( )	( )....	20.	Accounting.....	( )	( )	( )	( )
( )	( )	( )	( )....	21.	Marketing Management.....	( )	( )	( )	( )
( )	( )	( )	( )....	22.	Consumer Behavior.....	( )	( )	( )	( )
( )	( )	( )	( )....	23.	Production Management.....	( )	( )	( )	( )
( )	( )	( )	( )....	24.	Financial Analysis.....	( )	( )	( )	( )
( )	( )	( )	( )....	25.	Business Planning.....	( )	( )	( )	( )
( )	( )	( )	( )....	26.	Ethics, Professional Problems, and Civil Rights...	( )	( )	( )	( )
( )	( )	( )	( )....	27.	Other.....	( )	( )	( )	( )

10. For those areas where more training would have been of value, please indicate whether the additional training would have been helpful to all graduates entering business and industry, or whether it is specific to your situation.

Area in which further training would help all graduate students.

Area Number _____

Areas in which need for further training is specific to my situation.

Area Number _____

11. Comments _____

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Preparation For Work In Business And Industry

Report #2

The Results of a Survey of Employers of Recent I/O Graduates

Abstract

Fifty psychologists who had interviewed and/or hired recent I/O graduates responded to a recent survey. These respondents had seriously interviewed a total of 105 recent Ph.D.'s and MA's over the past five years, and had actually hired a total of 163 of these graduates. The majority of these individuals were hired to work in the general area of "Personnel/Industrial" psychology.

Interview results were rated as the most important source of information in reaching a decision to hire, followed by an evaluation of previous work experience. The quality of the overall academic preparation of those recent graduates interviewed was rated as "good", while those hired were rated as "excellent" on a five point scale ranging from "poor" to "outstanding." The attitude of recent graduates toward working in business and industry was rated between "good" and "excellent."

Overall, the respondents felt the biggest strength of recent graduates was their training in experimental design and statistics (especially multivariate). The biggest shortcoming indicated was a lack of an understanding of business and industry. They felt the one most important thing that could be done to help in the training of I/O graduate students is to familiarize them with the practical aspects of business and industry through work programs, practicums, and internships, as well as through more realistic interactions in the classroom. Although more formal training was recommended in some applied areas such as "Personnel Selection and Assessment", the respondents felt little training had been received, and little further training was needed in the general area of business administration -- e.g., financial analysis, marketing management, etc.

The overall conclusion of this survey is identical to the one reached on the basis of an earlier survey of the recent graduates themselves. Some organized approach should be taken to provide more and better internship programs for graduate students in I/O psychology, and steps should be taken at academic institutions to make the classroom training relate more directly to practical business situations. It would appear that Division 14 is best equipped to take appropriate actions in these areas.

PREPARATION FOR WORK IN BUSINESS AND INDUSTRY

REPORT #2

-- The Results of a Survey of Employers of Recent I/O Graduates --

by

Eugene C. Mayfield

During June, 1976 questionnaires were sent to 254 psychologists who were possibly in a position to hire recent I/O graduates to work in business or industry. These psychologists met, with occasional exceptions, the following requirements: (a) were presently working in business or industry, (b) had been out of graduate school at least five years, (c) were members of the American Psychological Association, (d) were members of Division 14, (e) indicated in the APA Directory that their major area of interest was I/O psychology.

The questionnaire consisted of a simple four-page form asking the employers:

1. How many recent I/O graduates they had seriously considered and how many they had actually hired in the last five years.

2. The general areas in which these graduates had been hired to work.

3. How important various factors were in their decision to hire recent I/O graduates.

4. How they perceived the academic preparation of recent I/O graduates.

5. What they felt the biggest strength and the biggest shortcoming was with respect to recent I/O graduates.

6. The one thing they felt would help most in preparing I/O graduates to work effectively in business and industry.

7. Their evaluation of the formal classroom training recent I/O graduates had received in each of 26 itemized areas and the areas in which they felt further training would be of value.

The questionnaire was designed to tap areas similar to those that were included in a 1975 questionnaire which was sent directly to recent graduates. In this way, comparisons could be made between the opinions of recent graduates and those of employers of recent graduates*.

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*The results of the earlier survey of recent I/O graduates were reported in TIP. The questionnaire used in this survey is attached to the end of this report. I am indebted to the members of my subcommittee -- Paul Muchinsky and Mike Flanagan for their suggestions on the questionnaire and help in developing the mailing list.

The overall response rate was 29 percent. Of the 73 replies, 50 were from individuals who had interviewed and/or employed recent I/O graduates to work under their supervision in business and industry in the last five years. Although this may seem to be a relatively small group, they had been exposed to quite a large number of recent I/O graduates. Over the past five years, they had seriously interviewed 774 recent Ph.D.'s and 251 recent MA's. They ended up actually hiring 109 (14 percent) of the Ph.D.'s and 54 (22 percent) of the MA's.

In What General Areas were the Graduates Hired to Work?

As would be expected from the selection of the sample, the majority of the graduates had been hired to work in the general area of "Personnel/Industrial" (65 percent). The next most frequently indicated area was "Organizational/Social" (15 percent), while a combination of "Personnel/Industrial" and "Organizational/Social was mentioned by 6 percent of the respondents. Other areas were indicated much less frequently. These were: Clinical (2 percent), Counseling (4 percent), Human Factors (2 percent), Marketing/Consumer (4 percent) and Research (2 percent).

What are the Important Factors in Reaching a Final Decision to Hire a Recent I/O Graduate?

The respondents were asked to indicate how important each of ten factors were in reaching a decision to hire or not hire a recent I/O graduate. These ten factors, along with the average rating each received (of no importance = 0; Little = 1; Moderate = 2; Above average = 3; Of great importance = 4) is shown below.

Factor	Average Rating
Interview Performance	3.22
Past full-time work experience	3.04
Type of coursework taken	2.81
Type of degree program	2.54
Assistantship held, or internship work	2.48
Reputation of I/O department in general	2.20
Scholastic average	2.17
Reputation of specific degree program	2.12
Letters of reference	1.58
Publications	1.56

The interview was generally felt to be the most important single factor. Its universal use in the hiring process makes this result reasonable, even though there is a great deal of pessimism regarding its use for this purpose. The second most important factor--past full time work experience--relates to the fact that the majority of respondents feel that a realistic knowledge of business and industry is of great value. At the bottom end, letters of reference and publications of the recent I/O graduate hold relatively little weight and the average rating falls between "of little importance" and "of moderate importance." It should be noted, however, that there was quite a bit a variability on each factor -- in each case the individual ratings ranged from "of no value" all the way to "of great value."

This question also provide an "other" category which gave the respondent a chance to add to the ten items indicated above. A number did so, most frequently adding items relating to the candidate's knowledge of business and industry, and the ability to communicate and work with business people. Typical additions in these areas were:

-- Part-time work experience
-- Ability in oral communication
-- Industrial "line" experience
-- Organizational acceptability -- Appearance, Flexibility
-- Maturity-realism-sense of what business is all about
-- Applied vs. academic orientation
-- Communication skills
-- Ability to relate to line management

Outside of this general area, there were few additions. Two individuals did mention "career stability" as a factor, and two others indicated they would place significant weight on the personal recommendation of someone whose opinion was important to them.

Overall, How Good was the Academic Preparation of the Recent I/O Graduates as Seen by the Employers?

The questionnaire asked the respondent to evaluate the academic preparation of the I/O graduates they had interviewed in the last five years and, separately, those they actually hired. The distribution of the responses is shown below for those who answered the question.

Evaluation of Academic Preparation	Seriously Interviewed	Actually Hired
Outstanding	1	6
Excellent	17	25
Good	23	15
Fair	4	0
Poor	4	0
Average Response (Poor = 0, Fair = 1, Good = 2, Excellent = 3, Outstanding = 4)	2.14	2.80

Not surprisingly, the evaluation of the academic preparation of those actually hired is higher than that for those that were seriously interviewed (which includes those who were later hired). However, the fact that 63 percent of the respondents felt the academic preparation of those recent graduates they seriously interviewed was no better than "good" would indicate there is certainly room for improvement in the eyes of employers.

Overall, these results are quite similar to those obtained from the earlier survey in which recent I/O graduates evaluated their own training. There 56 percent felt their training was no better than "good", and their average response was 2.38.

What was the Attitude of the I/O Graduates Toward Working in Business and Industry?

A general question was asked with respect to the attitudes of the recent graduates who were actually hired toward working in business and industry. The distribution of responses obtained is shown below.

Attitude	
Outstanding	9
Excellent	11
Good	17
Fair	7
Poor	0
Average Response (Poor = 0, Outstanding = 4)	2.50

It was thought that the general attitudes of the recent I/O graduates would have been rated higher. However, the average response fell between "good" and "excellent" and 16 percent of those answering the question rated it only "fair." Results to be discussed later indicate that the recent graduates had not had much, if any, prior contact with business and industry before being hired. As a result their attitudes may have tended to decrease somewhat once their early expectations were modified by early on-the-job experience.

Some of the write-in comments that accompanied the lower ratings lend support to this hypothesis -- e.g.,

"Their views of the type of work they will be doing aren't realistic..."

"Not totally aware of organization committment (time, energy) required."

"Somewhat unrealistic regarding relevance of academic training to world of work."

"It is my impression that the graduates have a rather inflated opinion of what they can do. Seem to lack an understanding of industry."

"Somewhat unprepared about the attitudes and values of business towards behavioral sciences."

What are the Major Strengths and Shortcomings of Recent I/O Graduates?

Forty-seven individuals wrote in answers to the open-end question regarding the biggest strength of I/O graduates who are looking for employment in business and industry. The most frequent response (38 percent) was that the recent graduates had excellent training in experimented design, statistics and/or research methodology. This was followed by comments relating to the good overall training that

had been received (30 percent). A smaller percent of respondents highlighted the graduates personality -- e.g., "desire to succeed," "bright", "ambitious" (11 percent); interest in and/or realistic outlook toward working in business (11 percent); and more limited areas of training -- "concepts of work behavior", "knowledge of organizational change strategies" (4 percent). Three respondents indicated that they saw no particular strength or it varied with the individual.

There was even more agreement between the forty-eight individuals who responded to the open-end question regarding the biggest shortcoming of recent graduates. Of these, 27 (56 percent) mentioned a lack of an understanding of business -- e.g., a lack of realism, lack of awareness of business in general, naivete about practical applications of research, naivete regarding politics in business, too much of theoretical/acedemic orientation, etc. A few individuals mentioned somewhat related topics such as a lack of communication and/or interpersonal skills (6 percent), or a lack of background in a specific applied area -- e.g., training, selection, or application of a model (6 percent). The remaining respondents indicated less business related shortcomings such as generally poor research methodology including a tendency to jump to conclusions or to rely on canned computer programs (13 percent); poor overall training and general naivete (10 percent); or personality factors -- e.g., "greed" and "a willingness to conform to executive expectations of demeanor and appearance" (4 percent). Two individual indicated that they spotted no deficiencies or it varied with the individual concerned.

What is the One Thing that would Help I/O Graduates the Most?

The answers to this question were the most consistent of any of the responses to the questionnaire -- the respondents felt that graduate schools should, in one way or another, familiarize the student with the practical aspects of business and industry. Of 49 individuals responding to the question, 36 (73 percent) indicated this as primary concern. Most felt that this should take place in work programs, practicums, or internships. A few suggested more realistic situations being covered in classroom sessions themselves. Typical answers were:

"Required internships prior to a degree."

"Internship under a practicing I/O psychologist."

"Genuine field work that a person is actually held accountable for in the sense of results and meeting dates."

"Early experience (first year of graduate work) in applied research setting under supervision of psychologist."

"Apprenticeships "on the assembly line," in personnel department, etc."

"Invite numerous everyday practitioners (not "superstars") in to talk to students about what they do everyday."

"Some supervised experience in business or industry -- less as a consultant or contractor, more as an employee responsible to the organization."

Other responses fell into the following general areas: Provide a better background in research methodology and in solving problems (6 percent); train students to communicate better (6 percent); improve the general education of students (8 percent); provide students with more business administration courses (6 percent).

Subject Areas In Which Training was Received and Areas Where More Training Would Have Been Helpful

In order to more specifically identify the areas where employers of recent I/O graduates felt more formal classroom training was needed, a list of 26 areas was used. This was the same list used in the earlier survey of recent I/O graduates, and had been developed by (1) reviewing books of readings to determine the topic headings which were used, (2) taking the APA categories that are used to define specialty areas in the directory, (3) reviewing the list developed by Ben Schneider as used by Dennis Courtney in his study of Associate Members of Division 14 (reported in TIP), and (4) reviewing the lists of program needs as developed by Alexis Anikeeff in his studies of graduate training (also reported in TIP). These lists were combined into the following:

1. Research Methods and Design
2. Statistical Analysis
3. Computer Applications and Programming
4. Personnel Assessment, Selection, and Placement
5. Tests and Measurement
6. Performance Evaluation and Criterion Development
7. Position and Task Analysis
8. Personnel Training and Development
9. Motivation and Morale/Attitudes
10. Leadership and Supervision
11. Communication and Human Relations
12. Personality
13. Employee Counseling
14. Small Group Structure and Processes
15. Organizational Analysis and Change
16. Man-Machine Systems and Design
17. Operations Research
18. Labor Relations
19. Economics
20. Accounting
21. Marketing Management
22. Consumer Behavior
23. Production Management
24. Financial Analysis
25. Business Planning
26. Ethics, Professional Problems, and Civil Rights

The above seemed to cover the subject matter fairly well. Only five areas were added by the respondents in an optional "other" category (although this might simply be due to a reluctance to add to any readymade list). The five additional areas (one by each of five different respondents) were: (1) Ability to write, (2) power, (3), interviewing skills, (4) industrial engineering, systems, work measurement, (5) manpower planning-management.

Subjects were asked to respond to each of the subject areas in terms of the amount of training recent I/O graduates who had actually been hired had had in that area (None = 0, a little = 1, a moderate amount = 2, a lot = 3), and how much more training in that area should have been obtained to perform most effectively. (None = 0, a little more = 1, a moderate amount more = 2, a lot more = 3). Averages for each subject matter areas were calculated and the results are shown in figure 1.

Overall, it can be seen that the areas where most training had been received were Research Methods and Design, and Statistical Analysis. At the same time, on the average, it was felt that little additional training was needed in these areas.

The next areas where it was felt most training had been received were Computer Analysis and Programming; Tests and Measurement; Motivation, Morale and Attitudes; Leadership and Supervision; Personnel Selection and Assessment; and Performance Evaluation and Criterion Development. However, it was felt that more training in some of these areas would have been helpful -- particularly in the areas of Personnel Selection and Assessment, and Performance Evaluation and Criterion Development.

Least training had been received in the areas of Business Planning; Labor Relations; Economics; Production Management; Financial Analysis; Accounting; Marketing Management; Operations Research; and Man-Machine Systems and Design. Interestingly, not only was it felt recent graduates had received little training in these areas, but it was generally felt (with the possible exception of Business Planning) that further training in these areas would have been of little value. It may be noted that many of these subject areas include courses which are provided in most MBA programs. The fact that the subject areas of Operations Research and Man-Machine Systems and Design fell into this group is probably due to the original selection of the survey sample which included to a degree membership in Division 14, and a major interest in I/O psychology as opposed to human engineering, etc.

Probably the most important thing about these results is that they agree quite closely with the results of the earlier survey in which recent I/O graduates themselves were asked to respond to the same 26 areas. It appears that recent graduates and their employers agree, for whatever reason, on areas where training was received and, more importantly, on areas where further training was needed. The most obvious difference is that employers indicated that more training was needed in the practical and applied areas of Personnel Selection and Assessment; Performance Evaluation and Criterion Development; and Tests and Measurements than did the recent graduates.

The respondents were also asked whether the areas in which they indicated a need for further training would apply to <u>all</u> graduate students in I/O psychology, or whether they were <u>specific</u> to their particular situation. The majority of those who answered this question (71 percent) felt their answer was specific to their own situation. For this reason, one must be careful (as was also true in the earlier survey of recent graduates) not to interpret the overall averages discussed above as applying equally to all respondents. The particular needs of a specific employer are obviously very important in determining the specific training and skills that are needed on the part of a recent I/O graduate being considered for employment.

<u>Overall Conclusions</u>

The overall conclusions of this survey of <u>employers</u> of recent I/O graduates are <u>identical</u> to those of the first survey which was made of recent graduates themselves. To quote:

"The obvious conclusion is that the respondents feel that the one most important ingredient that should be included in the training of I/O students who will be entering business and industry is actual practical experience prior to graduation. This should be obtained through direct contact with business and/or through the application of theory to practical situations in the classroom. Although a few subject matter areas are seen as being of more general importance than others in terms of the value of further training, the ratings are greatly influenced by an individual's specific situation. It would therefore appear that institutions interested in effectively training their students to work in business and industry should take definite action to develop planned contacts on the part of the students. Given the individual nature of the importance of various subject matter areas, this contact should begin early in a student's graduate career, if not before entering graduate school. In this way, the courses taken and the emphasis given various subject matter areas could be specifically aimed at meeting the individual's planned area of specialization."

It would appear, because of the agreement between these two surveys, that no additional surveys need to be made to determine the basic educational and training needs as highlighted by these two groups. It should also be noted that the areas of need identified by these two surveys are related directly to two of the six areas tapped for high priority by the Task Force on the Practice of Psychology in Industry that was established in early 1965 by the APA Board of Professional Affairs (see the American Psychologist, Vol. 26, No. 11, November 1971). These were (1) provision of realistic experience during training, with special attention to internships and (2) facilitation of more productive university -- practitioner interaction.*

The report of the task force recognized the difficulties involved in reaching these objectives, but stressed the need for greater and more coordinated efforts by the APA Board of Professional Affairs. This report underscores that need. Individual efforts have of course, been made (see Paul Muchinsky's article in Professional Psychology). However, more direct involvement by Division 14 itself is needed if any real progress is to be made.

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*The Guidelines on Education and Training of I/O Psychologists developed by the 1970-71 Education and Training Committee of Division 14 also suggested that an internship is a very significant part of doctoral training, particularly for the practitioner.

FIGURE 1
Training Received and Training Needed
By Recent Graduates in I/O Psychology

AVERAGE SCORE -- How Much More Training Should Your Recent I/O Hires Have Had To Perform Most Effectively?
(None = 0; A Little = 1; A Moderate Amount = 2; A Lot = 3)

AVERAGE SCORE -- How Much Training Have Your Recent I/O Hires Had In This Area? (None =0; A Little=1; A Moderate Amount= 2; A Lot=3)

	.20-.75	.76-1.00	1.01-1.25	1.26-1.68
2.01-2.65	Research Methods & Design Statistical Analysis			
1.51-2.00		Computer Applications & Programming	Tests & Measurement Motivation, Morale, Attitudes Leadership & Supervision	Personnel Selection & Assessment Performance Evaluation & Criterion Development
1.01-1.50		Personality	Communications & Human Relations Small Group -- Training & Processes Organizational Analysis & Change Ethics, Professional Problems & Civil Rights	Position & Task Analysis Personnel Training & Development
.51-1.00	Consumer Behavior	Employee Counseling		
.00-.50	Man-machine Systems/ Design Operations Research Accounting Marketing Management	Labor Relations Economics Production Management Financial Analysis	Business Planning	

SURVEY ON ADEQUACY OF GRADUATE TRAINING IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

The Education and Training Committee of the Industrial/Organizational (I/O) Division of the American Psychological Association is attempting to evaluate the training provided graduate students who enter business and industry. This questionnaire has been sent to you since our sources indicate you may have interviewed and/or hired recent I/O graduates. Would you please take a few minutes to complete this short questionnaire or, if you have not been directly involved in hiring recent I/O graduates but someone else in your organization has, please give it to that individual to complete.

Please return the questionnaire to:

Eugene C. Mayfield, Ph.D.
Life Insurance Marketing and Research Association
170 Sigourney Street
Hartford, Connecticut 06105

Many thanks for your cooperation!!

---

1. Your Name _____

   Title _____

   Company _____

   Address _____

   _____

2. What is the name and title of the individual in a line position in your company to whom your unit reports most directly? (A later questionnaire may ask some additional questions of this individual.)

   Name _____

   Title _____

3. Have you interviewed and/or employed recent I/O graduates to work under your supervision in business and industry in the last five years.

   ( ) No, please return only this portion of the questionnaire

   ( ) Yes, please complete the remaining questions

---

4. a. How many recent Industrial/Organizational graduates have you actually hired to work in business and industry in the last five years?

MA's _____ (number hired) Ph.D.'s _____ (number hired)

b. How many recent Industrial/Organizational graduates did you interview seriously (not just a brief screening interview of 10 minutes or so) in the last five years to hire this many individuals?

MA's _____ (number interviewed) Ph.D.'s _____ (number interviewed)

5. In what general area were these graduates hired to work?

	Number
a. Personnel/Industrial	_____
b. Organizational/Social	_____
c. Clinical	_____
d. Counseling	_____
e. Human Factors	_____
f. Marketing/Consumer	_____
g. Other _____	_____
_____	_____
_____	_____

6. a. Overall, how would you evaluate the academic preparation of the recent I/O graduates you have interviewed (not necessarily hired) in the last five years?

( ) Outstanding ( ) Excellent ( ) Good ( ) Fair ( ) Poor

b. How would you evaluate the academic preparation of the recent I/O graduates you have hired in the last five years?

( ) Outstanding ( ) Excellent ( ) Good ( ) Fair ( ) Poor

c. How would you evaluate the attitudes of the recent I/O graduates you have hired in the last five years toward working in business and industry?

( ) Outstanding ( ) Excellent ( ) Good ( ) Fair ( ) Poor

Comments _____

_____

7. What do you feel is the biggest strength you have seen with respect to recent I/O graduates who are looking for employment in business and industry?

_____

_____

8. What is the biggest shortcoming you have seen with respect to recent I/O graduates who are looking for employment in business or industry?

_____

_____

9. If you were to name one thing that would help most in preparing I/O graduate students to work effectively in business and industry, what would it be?

_____

_____

10. How important are the following factors to you in reaching a final decision to hire or not to hire a recent I/O graduate?

	Importance				
	None	Little	Moderate	Above Average	Great
Reputation of the I/O department in general	( )	( )	( )	( )	( )
Reputation of the specific degree program	( )	( )	( )	( )	( )
Type of degree program (Ph.D., DBA, etc.)	( )	( )	( )	( )	( )
Type of coursework taken	( )	( )	( )	( )	( )
Scholastic average	( )	( )	( )	( )	( )
Interview performance	( )	( )	( )	( )	( )
Letters of reference	( )	( )	( )	( )	( )
Assistantships held or internship work	( )	( )	( )	( )	( )
Past full-time work experience	( )	( )	( )	( )	( )
Publications	( )	( )	( )	( )	( )
Other(s) _____	( )	( )	( )	( )	( )
_____	( )	( )	( )	( )	( )
_____	( )	( )	( )	( )	( )

11. Please indicate on the attached table: (1) How much training do you feel your recent I/O hires have had in the listed subject areas and, (2) how much more training should they have had to most effectively perform the job for which they were hired?

SUBJECT AREAS IN WHICH TRAINING WAS RECEIVED AND/OR FURTHER TRAINING WOULD HAVE BEEN HELPFUL

PLEASE READ THE ENTIRE LIST BEFORE RESPONDING

How much training have your recent I/O hires had in this area?						How much more training should your recent I/O hires have had to perform most effectively?			
No	A little	A moderate amount	A lot		SUBJECT AREA	No	A little more	A Moderate amount more	A lot more
( )	( )	( )	( )	1.	Research Methods and Design	( )	( )	( )	( )
( )	( )	( )	( )	2.	Statistical Analysis	( )	( )	( )	( )
( )	( )	( )	( )	3.	Computer Applications and Programming	( )	( )	( )	( )
( )	( )	( )	( )	4.	Personnel Assessment, Selection, and Placement	( )	( )	( )	( )
( )	( )	( )	( )	5.	Tests and Measurement	( )	( )	( )	( )
( )	( )	( )	( )	6.	Performance Evaluation and Criterion Development	( )	( )	( )	( )
( )	( )	( )	( )	7.	Position and Task Analysis	( )	( )	( )	( )
( )	( )	( )	( )	8.	Personnel Training and Development	( )	( )	( )	( )
( )	( )	( )	( )	9.	Motivation and Morale/Attitudes	( )	( )	( )	( )
( )	( )	( )	( )	10.	Leadership and Supervision	( )	( )	( )	( )
( )	( )	( )	( )	11.	Communication and Human Relations	( )	( )	( )	( )
( )	( )	( )	( )	12.	Personality	( )	( )	( )	( )
( )	( )	( )	( )	13.	Employee Counseling	( )	( )	( )	( )
( )	( )	( )	( )	14.	Small Group Structure and Processes	( )	( )	( )	( )
( )	( )	( )	( )	15.	Organizational Analysis and Change	( )	( )	( )	( )
( )	( )	( )	( )	16.	Man-Machine Systems and Design	( )	( )	( )	( )
( )	( )	( )	( )	17.	Operations Research	( )	( )	( )	( )
( )	( )	( )	( )	18.	Labor Relations	( )	( )	( )	( )
( )	( )	( )	( )	19.	Economics	( )	( )	( )	( )
( )	( )	( )	( )	20.	Accounting	( )	( )	( )	( )
( )	( )	( )	( )	21.	Marketing Management	( )	( )	( )	( )
( )	( )	( )	( )	22.	Consumer Behavior	( )	( )	( )	( )
( )	( )	( )	( )	23.	Production Management	( )	( )	( )	( )
( )	( )	( )	( )	24.	Financial Analysis	( )	( )	( )	( )
( )	( )	( )	( )	25.	Business Planning	( )	( )	( )	( )
( )	( )	( )	( )	25.	Ethics, Professional Problems, and Civil Rights	( )	( )	( )	( )
( )	( )	( )	( )	27.	Other	( )	( )	( )	( )

12. Would the areas where you indicated a need for more training apply to all graduate students in I/O psychology, or are they specific to your particular positions?

( ) Apply to all graduate students ( ) Specific to my situation

13. Comments _____